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ABSTRACT

This unobtrusive study examined whether the accuracy of reference service provided by student reference assistants (SRAs) and full-time paraprofessional department assistants (DAs) at the Brigham Young University library had improved since 1987. The effects of the following factors on accuracy were also considered: (1) whether a question was answered by an SRA or DA; (2) whether the SRA or DA consulted with other staff members in answering a question; (3) the time taken to answer a question; (4) the situation at the reference desk at the time a question was asked; (5) the manner in which a question was dealt with; and (6) whether the SRA or DA cited the sources used in answering the question. The population consisted of 29 SRAs and 5 DAs working at 5 reference desks. Proxies asked 122 questions to test various aspects of reference services. Data indicated that the overall accuracy rate of SRAs and DAs had not improved significantly since 1987. Of the other factors examined, only the manner in which the question was dealt with by the SRA or DA was found to be significant. More consistency in policy and training was recommended to increase the level of efficiency at the reference desks. The list of questions, proxy instructions, and proxy report form are appended. (19 references) (MES)

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BRIGHAM YOUNG UNIVERSITY

ACCURACY AT THE REFERENCE DESK: AN UNOBTRUSIVE STUDY

A RESEARCH PROJECT SUBMITTED TO
THE HAROLD B. LEE LIBRARY
IN PARTIAL FULFILLMENT OF
THE MASTER OF LIBRARY AND INFORMATION SCIENCE DEGREE

BY

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APRIL 17, 1989

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TABLE OF CONTENTS

List of Tables iii

ACKNOWLEDGEMENTS iv

CHAPTER 1 1
THE PROBLEM 1
Statement of the Problem 1
Subsidiary Problem 2
Importance of the Study 2
Literature Review 3
Hypotheses 6
Subsidiary Hypotheses 7
Assumptions 8
Definitions 9

CHAPTER 2 11
METHODOLOGY 11
Population 12
Data Collection Procedures 13
Instrument 13
Limitations 14
Methodological Assumptions 15

CHAPTER 3 16
ANALYSIS OF DATA AND FINDINGS 16
Summary of Analysis 20

CHAPTER 4 22
RECOMMENDATIONS AND CONCLUSIONS 22
Conclusion 23

APPENDIX A 25
UNOBTRUSIVE QUESTION LIST 25

APPENDIX B 33
PROXY INSTRUCTIONS 33

APPENDIX C 36
PROXY QUESTION REPORT 36

REFERENCES CITED 39

List of Tables

Table 1. Comparison of Accuracy Between 1987 and 1989 Studies 18
Table 2. Factors Influencing Accuracy 21

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CHAPTER 1

THE PROBLEM

The goal of reference services in the Harold B. Lee Library (HBLL) of Brigham Young University "is to provide effective and efficient services to library users to enable them to achieve maximum access to library services, information and materials" (Hall, et al., 1988).

In 1986, library administration appointed a committee to evaluate the quality of reference service provided in the HBLL by student reference assistants (SRAs) and full-time para-professional department assistants (DAs). The five-part study resulted in the document known as An Evaluation of Reference Desk Service in the Brigham Young University Library (Hall, et al., 1987). One part of this study focused on determining the accuracy of information patrons received.

The research undertaken in this paper attempted to replicate the accuracy portion of the 1987 study of reference services in the HBLL.

Statement of the Problem

Has the accuracy rate of reference service provided by SRAs and DAs of the HBLL improved since Winter Semester 1987?

Subsidiary Problems

Do the following factors affect the accuracy rate of reference service:

1. Whether a question is answered by an SRA or DA?
2. Whether the SRA or DA consults with other staff members in answering a question?
3. The time taken to answer a question?
4. The situation at the reference desk at the time a question is asked?
5. The manner in which a question is dealt with?
6. Whether the SRA or DA cites the source used in answering the question?

Importance of the Study

All libraries are concerned with the quality of their services, yet studies of reference service reveal serious deficiencies nationwide in all types of libraries. Along with this general national problem in reference services, the Lee Library also recognizes the potential for a decrease in reference service effectiveness due to the reference desks being staffed by SRAs and DAs rather than professional librarian subject specialists (SSs).

The results of the 1987 Lee Library study for correctness of answers did show a serious deficiency in the ability of SRAs and DAs to provide complete and correct information to patron queries. To provide effective and efficient reference service, these deficiencies needed to be remedied and recommendations were

made at the conclusion of the 1987 study for this very purpose. These recommendations included setting standards of performance for reference provided at the reference desks, improving the training program for all personnel involved in reference service, and involving the SSs more heavily in reference responsibilities. It is of great importance, now that the recommendations have been made, and the follow-up unobtrusive study completed, to determine if the recommendations improved the accuracy rate of reference services at the HBLL.

Literature Review

Many studies measure the accuracy of reference service by evaluating the answers that reference librarians and staff give to factual questions. The findings of these studies have been consistent and disturbing (Crews, 1988). What is known as the "55% Rule" of accuracy has motivated many researchers to explore, in depth, the accuracy problem of reference service. Many studies have attempted to analyze the relationship between accuracy and variables such as collection size, budget, and librarian training. This literature review will focus on studies dealing with academic libraries, the use of nonprofessionals at the reference desk, and unobtrusive measures.

Academic Library Studies

In the past two decades, 11 of 47 (23%) accuracy evaluation studies have focused on academic libraries. Six of the 11 studies used the telephone as the method of contact, while the

other half evaluated the accuracy of the service as rendered in person (Crews, 1988). Hernon and McClure (1983) used both telephone and in person contacts and found little difference between them. Results from academic library studies have revealed accuracy rates as low as 13.3% (Schmidt, 1980), and as high as 89% (State Library of Ohio, 1972). In her study of academic libraries, Myers (1983), reported a 50.4% accuracy rate. This rate is consistent of findings of other studies focusing on academic libraries (Halldorsson, Murfin, 1977; Jirjees, 1983; Benham, 1987). One study compared accuracy rates of public and academic reference librarians and found no difference between the two (Benham, 1987).

Nonprofessional Reference Staff

A study to determine if nonprofessionals are scheduled to work at reference desks in academic libraries revealed that over two-thirds of the libraries questioned do use nonprofessionals to some degree (Boyer and Theimer, 1975). A recent study suggests that academic libraries that use nonprofessional staff at the reference desk "cannot routinely assume that such use is effective" (Murfin, Bunge, 1988). An earlier study had concluded that nonprofessional staff did not answer questions as well as professionals did (Halldorsson and Murfin, 1977). Murfin and Bunge's study (1988) not only confirmed this, but went on to isolate factors that lead to a lower success rate among nonprofessionals. The studies mentioned above have been cited in support of the argument that effective reference librarians must

be trained professionals and graduates of accredited library schools (Peele, 1980; Crews, 1988).

Unobtrusive Methods

Unobtrusive measures have been the primary trend in reference evaluation. Of 47 studies conducted in the past two decades, only 17% (8) of the studies used obtrusive measures (Crews, 1988).

Unobtrusive testing provides a way to collect data from the perspective of the library users, and it avoids subjective assessments about the quality of the reference service. Because test subjects are not aware that the service is being evaluated, the investigators are more likely to observe typical behavior and attitudes during the encounters.

Although the majority of accuracy studies have used unobtrusive methods, the use of unobtrusive testing in evaluating reference accuracy has not gone uncriticized. Plotnik (1985) argues that unobtrusive testing gives a distorted image of reference service. He claims that reference librarians may be deluged with clients and questions, and that under such circumstances he suspects that other information providers would not do any better. "The questions we do answer correctly are commonly those that other information sources don't begin to answer." He suggests that the rate of accuracy would dramatically improve if librarians would only ask, "Does this answer your question?"

Powell (1976) chose to use obtrusive rather than unobtrusive

measurement. He felt that the librarians motivation would be more likely to be equal and constant if they knew they were being tested. Powell's study revealed a 59% accuracy rate.

The question has been raised as to whether it is ethical to use unobtrusive measurement (Sergean, 1973). Hernon and McClure (1987) argue that it is ethical as long as the anonymity of the personnel tested is maintained. Using data collected unobtrusively would be considered "misused" if it was used in salary and promotion decisions.

In her study, Myers (1983) concludes that "library and reference/information service administrators should consider unobtrusively testing their staff to ascertain the real level of reference service being provided to users."

Conclusion

Because each library is unique and has individual characteristics, it is important for managers to conduct their own evaluations and assess the level of accuracy of reference service for their particular institution (Hernon and McClure, 1987). The resulting information will give a basis for developing and supporting programs that will improve the quality of the service they and their staff provide.

Hypotheses

Null hypothesis

There will be no significant difference in the accuracy of information patrons received from SRAs and DAs during Winter Semester 1987 and Winter Semester 1989 at the HBLL.

Alternate hypothesis

There will be a significant difference in the accuracy of information patrons received from SRAs and DAs during Winter Semester 1989 and Winter Semester 1987.

Subsidiary Hypotheses

Null hypothesis

There will be no difference in the accuracy rates of SRAs and DAs.

Alternate hypothesis

There will be a difference in the accuracy rates of SRAs and DAs.

Null hypothesis

Whether the SRA or DA consults with other staff members will have no effect on the accuracy of the answer given.

Alternate hypothesis

Consulting with other staff members will have an effect on the accuracy of the answer given.

Null hypothesis

The amount of time taken to answer a question will have no effect on the accuracy of the answer given.

Alternate hypothesis

The amount of time taken to answer a question will have an effect on the accuracy of the answer given.

Null hypothesis

The situation at the reference desk at the time a question is asked will have no influence on the accuracy of the answer given.

Alternate hypothesis

The situation at the reference desk at the time a question is asked will have an influence on the accuracy of the answer given.

Null hypothesis

The manner in which the question is dealt with will have no effect on the accuracy of the answer given.

Alternate hypothesis

The manner in which the question is dealt with will have an effect on the accuracy of the answer given.

Null hypothesis

Citing the source used in answering the question will not effect the accuracy of the answer given.

Alternate hypothesis

Citing the source used in answering the question will effect the accuracy of the answer given.

Assumptions

It was assumed that the SRAs and DAs involved in this study were of similar intelligence and abilities as the SRAs and DAs in the 1987 study with the only differences being due to the results

of the recommendations made (better standards, policy and procedures manual) at the conclusion of the 1987 study. It was also assumed that the proxies for this study carried out their assignments in like fashion to the those in the 1987 study. Since this was an unobtrusive study, it was assumed that the SRAs/DAs were unaware that they were being tested.

Definitions

Accuracy: Correct and complete answer(s) that satisfies a patron's information need.

Citing the source: When the SRA/DA tells the proxy the name of the source the SRA/DA is using to answer a proxy question.

Correct answer: An answer to a proxy question that matches the answer given by the SS who created the question.

Consultation with SRA/DA: Whether the SRA/DA consults with other staff members, ie. SRAs, DAs, SSs, or unknown personnel.

Department Assistant (DA): A full-time para-professional library employee who manages the clerical functions of the department and has various involvement in reference activities in their individual departments. All are directly involved in reference desk service and in some instances they supervise the SRAs at the reference desk.

Incorrect answer: An answer that does not match at all the answer given by the SS who created the question.

Manner in which question is dealt with: The SRA/DA either (1) answered question without using a source, (2) used a single source, (3) used several sources, (4) showed the source to the proxy and explained how to use it, (5) referred the proxy to a

specific source or (6) indicated that they could not find an answer.

No answer: No answer to a proxy question was recorded on the Proxy Report Form.

Partially correct answer: An answer that gave at least 50% of the answer that matches the answer given by the SS who created the question.

Proxies: Students in the Master of Library and Information Sciences program at Brigham Young University and currently in the LIS 696 class posing as library patrons asking questions at each of the reference desks.

Situation at the reference desk: What the SRA/DA is doing when approached by the proxy (free to help, preoccupied with a library project, helping another patron, away from the reference desk).

Student Reference Assistant (SRA): A part-time employee of the library, earning an hourly wage, who is simultaneously enrolled on a regular basis at Brigham Young University, and whose duties include assisting patrons at the five reference desks of the HBLL.

Subject Specialists (SSs): Professional librarians who each have a particular subject(s) of expertise and whose responsibilities include collection development, faculty liaison, and backup at the reference desk.

Time taken to answer question: The amount of time taken to receive an answer to a proxy question. Calculated from the time the proxy approached the reference desk to the termination of the

reference interview.

CHAPTER 2

METHODOLOGY

This was a partial replication of a previous study (Hall, et al., 1987). The current study tested whether the correctness of answers to unobtrusive accuracy and negotiation questions has improved since the first study was performed. The previous study interpreted the data using descriptive percentages. In the current study, a calculation was made to determine the overall accuracy rate using the same method as the previous study, which was to combine the accuracy questions and negotiation questions for an overall accuracy rate. The level of signifcance was .05. The method that was chosen was to ask pre-selected reference questions unobtrusively at each of the five reference desks located in the HBLL. The SRAs or DAs did not know they were being tested and the proxies did not note the individual identity of the SRAs or DAs, with the exception of being able to differentiate between SRAs and DAs. The purpose of this study was to determine the accuracy of reference service at the HBLL, not to evaluate the individual performance of SRAs or DAs. Students from the School of Library and Information Science Winter Semester 1989 LIS 696 Library Operations Research class served as the proxies for this test. On March 3, each student in the class was assigned 10-13 questions except the two students

involved in the interlibrary loan study who were assigned only 5 questions each (see Appendix A for list of accuracy questions). One person from each group (accuracy, negotiation, and referral), distributed the questions to the proxies according to the time assigned the question and the availability of the proxy to ask the question at that assigned time. The questions were asked within a two-and-one-half week period starting March 3 and ending March 22. The Proxy Instructions (Appendix B), were used to train proxies in question asking and instrument completion. The Proxy Report Form that the proxies filled out is found in Appendix C.

Population

The population consisted of 29 SRAs and 5 DAs working at the five different reference desks at HBLL. Four of the LIS 696 proxies were employed as SRAs and were eliminated from answering any of the unobtrusive questions. They also did not ask questions on the floor where they worked and are not included in the 29 total SRAs and DAs. There were 5 SRAs on the first floor, 6 on the second floor, 5 on the third floor, 7 on the fourth floor, and 6 on the fifth floor. There was one DA per floor. Some of the SRAs are library and information science students and some of the DAs have other para-professional library experience. Not all of the SRAs and DAs were asked questions during the test. Work schedules from each floor were used to assign times that would involve the maximum amount of SRAs/DAs. Therefore, although the total population of SRAs and DAs was small, only a

sample was asked questions. However, the sample was large, including most of the population of SRAs and DAs. Time slots were also chosen to cover the complete range of hours of reference service.

Generalizability

The purpose of this study was to determine the accuracy of reference service at HBLL. The results were specific to the HBLL and not generalizable to any other library. The disturbing trend of low (36% in the case of the previous study done at BYU) scores on studies such as this might make the results of this study interesting to others who are performing this type of research.

Data Collection Procedures

During the time period of March 3-22, proxies asked 122 reference questions to test certain aspects of the reference services at HBLL. This study was concerned with accuracy, and included the questions that were of a ready reference type designed specifically for testing accuracy as well as the questions designed for negotiation. Appendix A contains the questions that were asked, Appendix B outlines the instructions that the proxies followed when asking the questions, and Appendix C is the questionnaire the proxies filled out upon completion of each reference transaction. Negotiation questions are contained in the study: Query Negotiation in the Harold B. Lee Library (Follett, Giles, Wright, 1989). A pre-test was to be conducted but time limitations prevented this from happening.

Instrument

The Proxy Report Form (Appendix C) and Proxy Instructions (Appendix B) were created by students in the LIS 696 class to facilitate ease of data collection. The Proxy Questions (Appendix A), consisted of questions from the previous study (Hall et al., 1987), and new questions created by the SSs on each floor and students in the LIS 696 class. New questions that were more representative of information contained on each floor were added to replace ineffective questions in the previous study (Hall et al., 1987). There were a total of 60 questions in the previous study and 60 in the current study.

Questions pertaining to accuracy on the Proxy Question Report Form included questions 2, 4-11, and the unnumbered question dealing with the accuracy of the answer.

Limitations

The biggest limitation of this study was the fact that most, if not all of the class members in LIS 696 were known by most of the SRAs and DAs. It was hard to predict the effect that kind of bias had on the results. Another limitation was that this unobtrusive study still did not prove that the SSs were more effective at answering reference queries than the SRAs or DAs. Because no baseline measurement was done before the SSs were taken off the reference desk, this study should not be used as rationale for returning the SSs to the reference desk.

It was also hard to determine how each floor has implemented

the policy and procedures manual and carried forth the charge to increase SRA and DA training. A baseline of how much time was spent on each floor in training and an efficient test of SRAs and DAs to see if they have read and understood the policy and procedures manual could be correlated against the percentage of accuracy on each floor to see if training or the policy and procedures manual have made a difference. This was beyond the scope of this study.

Many of the SRAs and DAs knew that there was a study being performed, but did not know when. This too might have affected the results.

Methodological Assumptions

SRAs and DAs should have read the policy and procedures manual and participated in training. As this was not tested, this has been the biggest assumption this study made. It was assumed that the proxy questions for each floor were all of equal difficulty. Also, many of the SRAs and DAs knew the proxies. That affected the validity of this replication.

CHAPTER 3

ANALYSIS OF DATA AND FINDINGS

The previous study (Hall et al., 1987), calculated an overall accuracy rate using both accuracy questions and negotiation questions. The overall accuracy rate arrived at for this study used the same method. Of the 60 questions designed to test accuracy, 56 were usable. Two questions were not asked, and two questions were deemed faulty; one because it was not appropriate for the floor it was assigned to be asked on, and another because the answer was not available on BYLINE as it was intended to be.

Because questions designed to test negotiation skills were included in the accuracy measure of the previous study, the negotiation questions of the 1989 study (Follett, Giles, Wright, 1989) were used to calculate the overall accuracy rate.

A chi-square analysis was performed to determine if there was a significant difference in the accuracy rate of reference service provided by SRAs and DAs during Winter Semester 1987 and Winter Semester 1989: chi-square (3) = 8.158, $p<.05$ According to this test, there is a significant difference, however, on the examination of the figures within the cells, it is clear that the difference is largely due to a difference in the number of "no answer" responses rather than a difference in the amount of

correct answers (table 1). To correct this, the "incorrect" value was collapsed to include the "no answer" value. Another chi-square analysis was performed: chi-square (1) = .384, $p>.05$. With the resulting level of significance, the null hypothesis that states there will be no significant difference in the accuracy of information patrons receive from SRAs and DAs during Winter Semester 1987 and Winter 1989 at the HBLL cannot be rejected.

Table 1
Comparison of Accuracy Between
1987 and 1989 Studies

		1987		1989		
		Frequency	Percent	Freq.	Per.	Row Total
Correct	Observed Frequency	27	36%	36	44%	
	Expected Frequency	30		33		63
Partially Correct	Observed	19	25%	19	24%	
	Expected	18		20		38
Incorrect	Observed	12	16%	21	26%	
	Expected	16		17		33
No Answer	Observed	17	23%	5	6%	
	Expected	11		11		22
Column Total		75	100%	81	100%	156

It should be stressed that the figures reported for the accuracy rates in Table 1 include the responses to questions designed to test negotiation skills. These negotiation questions

were assigned values of correct, partially correct, and incorrect based on the level of negotiation that took place, not on whether the questions were answered correctly. To establish a baseline for further studies, the remainder of the data analysis includes only data derived from the 56 questions designed to test accuracy.

After excluding the negotiation questions, another accuracy rate was calculated. Eliminating the negotiation questions produced a much higher accuracy rate: correct 52%, partially correct 21%, incorrect 18%, and no answer 9%.

To further describe the data received, the percentage of correct answers obtained at each of the reference desks by floor was calculated: First floor 55%, Second floor 36%, Third floor 40%, Fourth floor 50%, and Fifth floor 75%.

Only one question was asked of a DA. Because of this, it was not possible to determine whether the DAs or the SRAs were more successful in answering the questions.

Consultation occurred in 9 cases. A chi-square analysis was performed to determine whether consultation with other staff members affected accuracy: chi-square (1) = .01370, p = .9068. The null hypothesis that consultation with other staff members will have no effect on the accuracy of the answer given cannot be rejected.

A chi-square analysis was performed to determine if the amount of time taken to answer a question affected the accuracy rate. Because the number of cells with expected frequencies of

less than 5 exceeded 20%, the values were collapsed into three categories to allow for analysis: 1 minute or less, 2 to 4 minutes, and 5 minutes or more. The resulting significance level was well over the .05 level: chi=square (2) = .14354, p = .9307. The null hypothesis that states that the time taken to answer a question will not effect the accuracy of the answer given cannot be rejected.

A chi-square analysis was performed to determine if there was a relationship between accuracy and desk situation. To do this, the values were collapsed to two categories: free to help, or preoccupied (with another patron, library project, or away from the desk). As was done earlier, the values were collapsed to allow for analysis: chi-square (2) = 2.52667, p = .1119. The null hypothesis that states that the situation at the reference desk at the time a question is asked cannot be rejected.

To see if there is a relationship between the accuracy rate and the manner in which questions were dealt with, a chi-square analysis was performed. It was necessary in this case also, to collapse the values to allow for analysis. The values were collapsed into these categories: answered without consulting a reference source, consulted one or more sources, referred the patron to a specific source (which included showing the patron a source or explained how to use it), or did not answer. The resulting significance level was not consistent with the findings of other variables analyzed: chi-square (3) = 8.64361, p = .0344. In this case, the null hypothesis that there is no

relationship between accuracy and the manner in which a question is dealt with can be rejected.

A chi-square analysis was performed to determine if citing the source used in answering a question affected the accuracy rate. Chi-square (1) = .07471, p = .7846. The null hypothesis that states citing a source used in answering a question will not affect the accuracy of the answer given cannot be rejected.

Summary of Analysis

The overall accuracy rate of SRAs and DAs has not improved significantly since the 1987 study. A baseline was established to permit exclusivity in using accuracy questions in future studies. This baseline figure of 52% is consistent with accuracy rates reported in the literature for reference desk personnel of academic libraries.

Many factors were analyzed to determine if there existed a relationship with the accuracy rate.

Table 2
Factors influencing accuracy

Factors	Degrees of freedom	Chi-square	Significance
Question answered by SRA/DA	---	---	---
Consults with other staff members	1	.01370	.9068
Time taken to answer a question	2	.14354	.9307
Situation at the reference desk	1	2.52667	.1119

Manner in which the question is dealt with	3	8.84361	.0344
Cites the source used	1	.07471	.7846

Of these, only one was significant, the manner in which the question was dealt with by the SRA or DA. This includes whether they answered without consulting a reference source, answered with consulting one or more reference sources, referred the patron to a specific source (or showed the patron a source and explained how to use it), or did not give an answer. Further analysis would be necessary to determine the exact nature of the relationship between these individual variables and accuracy.

CHAPTER 4

RECOMMENDATIONS AND CONCLUSIONS

More consistency between the various floors in policy and also in training could increase the level of efficiency at each reference desk. Each floor has different policies concerning periodical checkout, training, and the like. Having one professional in charge of maintaining consistency between the floors, and providing thorough training that covers the same topics, would lead to greater correlation between floors and alleviate some of the frustration patrons feel when they get differing answers on different floors.

As discussed in the chapter on methodology, the biggest limitation was the fact that the library science students who were proxies were known by many of the SRAs and DAs. It became very difficult to ask questions on certain floors, and it certainly affected the validity of the final results. One suggestion was to turn the study into an obtrusive study. Another suggestion was to use Library Science 111 students as proxies, which might work if they would remain committed to following the proxy instructions, and complete their assignments faithfully. Use of students who are known by the SRAs and DAs must be controlled for the next time this study is performed.

Pre-testing the proxy report form and the questions would

also improve the final product. There are some "bugs" in the proxy report form (Appendix C) and the proxy instructions (Appendix B) that would have been caught if the instrument had been pre-tested. These "bugs" included: not being able to determine if a question was negotiated and unclear instructions on what type of response to mark on question 7 (if a SRA/DA indicated they did not know the answer, but referred the proxy to a SS, should the proxy still mark "Indicated did not know the answer?")

Because of the wide discrepancy between accuracy rates when the negotiation questions were factored in to the overall accuracy rate, a better definition of an accurate answer for the negotiation questions needs to be developed, or the accuracy rate needs to come from only the accuracy questions, not the negotiation or referral questions.

It would be an interesting study to see how much influence the policy and procedures manual and training had on the rate of accuracy. This would have to be a controlled experiment with a pre-test and a post-test, but it would certainly give feedback as to how effective training and a policy and procedures manual are in improving the accuracy rate of the SRAs and DAs.

Conclusion

The stated purpose of this research project was to determine the accuracy rate of the SRAs and DAs at the various reference desks in the HBLL, and compare it to the previous study done in 1987. From the statistical analysis performed, a slight

improvement in the accuracy rate occurred, although it was not significantly different. The accuracy rate from the 1987 study was 36% and 44% from the 1989 study. A baseline was established using only the accuracy questions and not the negotiation questions. The rate improved from 44% to 52% when only the accuracy questions were used in the calculation for the 1989 study. This figure is consistent with accuracy rates reported for reference desk personnel of academic libraries nationwide.

Five factors were analyzed to determine if a relationship with the accuracy rate existed. Of these, only one was significant: the manner in which the question was dealt with by the SRA or DA. This includes whether they answered without consulting a reference source, answered with consulting one or more reference sources, referred the patron to a specific source (or showed the patron a source and explained how to use it), or did not give an answer.

The use of unobtrusive tests to determine the accuracy rate of reference service is becoming an accepted means of evaluating reference services. Care must be taken to "work out all the bugs" before the test is undertaken. Choice of proxies, design of questionnaire, and the questions themselves remain critical areas that have to be addressed to assure the success of unobtrusive testing of reference services.

APPENDIX A

UNOBTRUSIVE QUESTION LIST

Listed below are the questions asked by "proxy patrons" at each of the five reference desks in the HBLL:

Social Science Reference Questions (Level 1)

(Before asking this question, pull volume from the shelf) 1.1. I have been looking all day for the 1986 volume of the Journal of Community Psychology (BF637.C6 J68x). It is not in the book stacks or on the sorting shelves. Is there any other place I can check for it?

ANSWER: Check BYLINE. Checked out? Bins? Circ sorting shelves.

1.2. Can you show me how to use BYLINE to find current books on the illegal drug trade in Colombia?

ANSWER: Instruct on use of BYLINE, including use of LCSH.

1.3. I need to find the name of the Superintendent of Documents, and also his address.

ANSWER: U.S. Government Manual, Congressional Yellowbook.

1.4. Where can I find out which colleges offer graduate degrees in instructional science?

ANSWER: Lovejoy's, College Blue Book.

1.5. I'm writing a paper on behavior problems in the classroom and my teacher suggested that I use ERIC to find references. Can you show me how to use it?

ANSWER: Check ERIC thesaurus, provide point of use instruction.

1.6. I'd like to find a short statement that explains what a passive aggressive personality is?

ANSWER: Encyclopedia of Psychology.

1.7. I just read a book by Jefferey Pfeffer called Power in

Organization, and I need to see if anyone has cited it in the last few years.

ANSWER: Check BYLINE for publication date, then instruct on use of SSCI to find citation.

1.8. Where can I find a list of the primaries and caucuses that were held in 1988?

ANSWER: Congressional Quarterly's Guide To American Government.

1.9. What's the quickest way to find three articles on the effects of television on children, published in the last few years?

ANSWER: Provide point of use instruction for PSYCLIT; could also use ERIC or Psych Abstracts.

1.10. I can't find a reference in the Monthly Catalog to the "Articles of Incorporation" that my husband and I need to study before we start a business in Utah. Can you help me?

ANSWER: Utah Code. (1st floor's copy of Utah Code is being reclassified. A correct answer would be to send them to the Law Library).

1.11. I need to find a copy of the 1981 Senate hearings that were held on the Anti-Arson Act of 1982.

ANSWER: CIS Index.

1.12. I need to find out some information on folklore in Utah. My professor said there was a book on this floor that could help me.

ANSWER: Popular Beliefs and Superstitions From Utah (in SocSciRef).

Science Reference Questions (Level 2)

(Before asking this question, pull volume from the shelf)
2.1. I've been looking all day for the 1986 volume of Physiologist (QP 1 .P55)). It is not in the book stacks or on the sorting shelves. Is there any place else I can check for it?

ANSWER: Check BYLINE. Checked out? Bins? Circ sorting shelves.

2.2. Someone told me to use SM instead of S when I am searching medical subjects on BYLINE. Can you show me what the difference is?

ANSWER: SM are medical subject headings used by the national Library of Medicine. They are included on BYLINE for medical books.

2.3. I have this citation: Proc Natl. Acad Sci 72(9): 3452+ on salmonella. What is the full name of the journal?

ANSWER: Proceedings of the National Academy of Sciences (abbreviation is found in Periodical Title Abbreviations).

2.4. How do you use Science Citation Index to find an article on phospholipid metabolism?

ANSWER: Look in Permuterm index volumes. They give you names of authors which you then look up in Source Index volumes.

2.5. What is the value of avogadro's number?

ANSWER: 6.022045 x 10 molecules/gm in CRC Handbook of Chemistry and Physics or various other sources.

2.6. What is another name for folic acid and what is its chemical formula?

ANSWER: Folacin or Vitamin B complex (C H N O). Various chemistry, biology dictionaries.

2.7. What is the nutritive value of a McDonalds Big Mac?

ANSWER: Found in food and nutrition tables at the Sci Ref Desk or Food Values of Portions Commonly Used.

2.8. I can't find anything on VLSI in the Engineering Index?

ANSWER: Found in subject index of 1987 volumes under VLSI, otherwise look under "integrated circuits, VLSI", in the regular index volumes. (VLSI means Very Large Scale Integration).

2.9. I need to know the gold production in the U.S.

ANSWER: In World Metal Statistics or Mineral Facts and Problems.

2.10. What is a Phi unite in geology?

ANSWER: Glossary of Geology and possibly others.

2.11. I need to find the USGS Bulletin on the mineral resources of the Little Rockies Wilderness Study Area in Garfield County, Utah.

ANSWER: Bulletin 1751-A found in Publications of the USGS 1987.

2.12. I need to know a chemical formula for any kind of toothpaste.

ANSWER: Found in Chemical Formulary or other places.

General Reference Questions (Level 3)

(Before asking this question, pull volume from the shelf)
3.1. I've been looking all day for the 1986 volume of the Middle East Journal (call number DS 1 .M5). It's not in the book stacks or on the sorting shelves. Is there any place else I can check for it?

ANSWER: Check BYLINE. Checked out? Bins? Circ sorting shelves.

3.2. I found a book on BYLINE last week entitled L'Inquisition Espagnole. I need to look it up again and now I can't find it listed. Can you help me?

ANSWER: Ignore the "L" and search t=Inquisition.

3.3. I need to know where the Ogoki River is located, and how long it is.

ANSWER: Webster's New Geographical Dictionary.

3.4. I want to read about Larry King, the radio talk-show host. I need information about his life and I need a picture of him.

ANSWER: Current Biography.

3.5. I need to know if the Manoogian Foundation gives scholarships, and if so, for what purpose. Also, what is their address?

ANSWER: Foundation Directory.

3.6. How can I find out the number of households in Utah that have cable TV service?

ANSWER: Refer to Social Science Ref.

3.7 My instructor referred me to a bibliography by a man named Fisher on alcoholism and American Indians. It was published in a periodical about 1987, but he couldn't remember what periodical it was in. Can you help me find the citation?

ANSWER: Bibliographic Index.

3.8. Where can I look to find out who is the Senate Majority Leader (as of January 1989)?

ANSWER: Facts on File or refer to 1st floor.

3.9. Where are your books on animation?

ANSWER: Use LCSH and Instruct on Subject access to BYLINE.

3.10 Where can I get a list of private postal systems operating in the United States?

ANSWER: Directories in Print (formerly Directory of Directories).

3.11. I need to know the publication information for this book. It was published in the 1890's probably in France. Author: Cyriaque Helson. Title: La Siderurgie en France et a l'etranger.

ANSWER: Bibliotheque Nationale, Catalogue General . . .

3.12. I am trying to find information on 19th Shakespearean theatre productions in Utah. Do you have a bibliography or index that can help me find articles or books on this?

ANSWER: Check BYLINE s=Utah--Theatre.

History/Religion Reference Questions (Level 4)

(Before asking this question, pull volume from the shelf)
4.1. I've been looking all day for the 1986 volume of the Middle East Journal (call number DS 1 .M5). It's not in the book stacks or on the sorting shelves. Is there any place else I can check for it?

ANSWER: Check BYLINE. Checked out? Bins? Circ sorting shelves.

4.2. I found a book on BYLINE last week entitled L'Inquisition Espagnole. I need to look it up again and now I can't find it.

ANSWER: L' is Spanish for the; search t=inquisition.

4.3 I need the address of the (LDS) Brussels mission.

ANSWER: Church Almanac.

4.4 I need the address of the Lee County (Alabama) Historical Society.

ANSWER: Directory of Historical Societies and Agencies in the United States and Canada.

4.5 I want to see the latest official policy statement from the First Presidency on birth control.

ANSWER: In vertical file under "Mormon Medical Ethical Guidelines". Is no "official statement".

4.6 I'm looking for church records for the parish of Frating in England. I know it is in the county of Essex but the lady at the genealogy desk said to find out what archdeaconry and diocese it belonged to and that you could look that up for me.

ANSWER: Topographical Dictionary of England.

4.7 I need brief biographical information on important people in Italian history.

ANSWER: New Century Italian Renaissance Encyclopedia.

4.8 Where can I look to find the birthplace of the Danish philosopher Soren Kierkegaard?

ANSWER: The Encyclopedia of Philosophy.

4.9 Just for fun, I want to do an authentic middle ages dinner for some friends. Do you have anything that will tell what the common foods were, especially vegetables?

ANSWER: Encyclopedia of Middle Ages or Middle Ages Encyclopedia.

4.10 I'm doing an assignment for my tourism class and I need to find a current (1987-1988) list of travel agencies in Argentina.

ANSWER: World Travel Directory.

4.11 I need to find an article in the Ensign on Marion G. Romney that gives some information about his family.

ANSWER: Church periodical index.

4.12 I need to read the "Orlah" which is a part of the Talmud. My teacher said it would be in the red set on the front row of your reference stacks (BM 500 .E57x), but I can't figure out how they're organized. Can you show me which volume it is?

ANSWER: Look in Encyclopedia Judaica which tells you the tractate Orlah is in the order Zera'im. Go back to the set of the Talmud and find the volume with Zera'im on the spine and look at the table of contents.

(Before asking this question, pull volume from the shelf)
5.1. I've been looking all day for the 1987 volume of Journal of Academic Librarianship. It's not in the book stacks or on the sorting shelves. Is there any place else I can check for it?

ANSWER: Check BYLINE. Checked out? Bins? Circ sorting shelves.

5.2. I'm trying to find a book of quotes or anecdotes by Mark Twain. How can I find it on BYLINE?
ANSWER: Instruct on use of BYLINE. including use of LCSH.

5.3. I would like to know if there are any children's theatre companies in Atlanta, Georgia.

ANSWER: National Directory for the Performing Arts.

5.4. For my art history class, I need to find out what the Ash Can School of painting is and who some of the artists who belonged to it are.

ANSWER: Art dictionaries (McGraw Hill Dictionary of Art, etc.).

5.5. For my political science class I need to find a book review of Tom Clancy's Cardinal of the Kremlin.

ANSWER: Refer to the 3rd floor.

5.6. I really like some of the old TV shows like The Dick Van Dyke Show. Do you have a book that talks about those kinds of shows?

ANSWER: Every Show of the Fifties and Sixties (on BYLINE).

5.7. For my humanities 101 class I need the full official title of Schubert's symphony that is sometimes called "The Great", including the thematic catalog number.

ANSWER: Symphony No. 9 in C Major, D944.

5.8. How do I use Arts & Humanities Citation Index to find an article about Eugene O'Neill's play Long Day's Journey into Night?

ANSWER: Use A&HCI Permuterm Index, then source index.

5.9. What's the quickest way to find a recent article about Kurt Vonnegut?

ANSWER: Instruct on use of MLA Bibliography on Disc under Kurt Vonnegut.

5.10. When did they start rating films with "G", "PG", etc., and what is the official name of this system?

ANSWER: Film Facts.

5.11. I need to find out where the story of the opera Boris Gudonov originated?

ANSWER: Grove's Dictionary of Music and Musicians.

5.12. What is the "Cool Jazz" period?

ANSWER: Encyclopedia of Jazz (Leonard Feather's).

APPENDIX B
PROXY INSTRUCTIONS

The library is presently evaluating the quality of the reference service provided at the reference desks. An important part of this evaluation is to determine the correctness and completeness of the answers given, and the ability to negotiate and refer skillfully. While we are not attempting to evaluate the work of specific staff members, it is important that none of the reference desk staff know that they are being tested so they will not change their usual behavior.

During the time period of March 3-22, you will be given 10-13 questions (the two interlibrary loan students will have 5 questions each) to ask at each of the assigned five reference desks at specified times in the HBLL. Immediately following each reference transaction, please fill out the Proxy Report Form to report the results. Do Not wait to fill out the forms or you might forget important details. It is important that these forms be filled out with care and deliberation.

The questions you have been assigned are coded so that each question is asked at the appropriate reference desk:

A 1.1-1.12 R 1.1-1.8 N 1.1-1.5	Social Science Reference Desk, Level 1
A 2.1-2.12 R 2.1-2.8 N 2.1-2.5	Science Reference Desk, Level 2
A 3.1-3.12 R 3.1-3.8 N 3.1-3.5	General Reference Desk, Level 3
A 4.1-4.12 R 4.1-4.8 N 4.1-4.5	History Religion Reference Desk, Level 4
A 5.1-5.12 R 5.1-5.8 N 5.1-5.5	Humanities Reference Desk, Level 5

Please ask at the assigned desk, even if you think it should be asked elsewhere.

We have attached each question onto a Proxy Question Report form. Please do not detach these.

1. Before asking each question, review the Proxy Question Report form. Be certain you understand the types of questions asked on the form so you will be able to answer them correctly.
2. Be sure you fully understand the question you ask so if the SRA/DA asks you for further clarification you can provide an intelligent response. Do not suggest types of sources or places where the answer may be obtained: let the SRA/DA make the suggestions. The answer to the question is provided to you so you may respond intelligently, and the answer should not be used to prompt the SRA/DA.
3. We have endeavored to provide a rationale for why you are asking for the information in each question, but if there is not a specific purpose specified, indicate that you need the information for a class assignment or to write a paper.
4. Try to act as normal and natural as possible. Do not allow the SRA/DA to see the paper with the question on it or the report form. You might find it useful to write the question or take a few notes from it on a piece of paper so you can show it to the SRA/DA, should you be asked. This could help you with call numbers, spelling, etc. Fill out your report form away from the reference desk area.
5. Do not argue or be persistent in trying to obtain an answer. Take the answer given you even if it is incorrect. If an answer cannot be obtained, do not prompt or help the SRA/DA with clues or with suggestions.
6. If the SRA/DA tells you to find an answer on your own rather than giving a correct answer, negotiation, or referral, consider that as an incorrect answer. Do not go back and ask for more help.
7. If you are asked to come back later when someone more knowledgeable can help you, consider that as a referral to a professional and do not return. If the SRA/DA offers to take you to speak directly with the professional librarian, make an excuse that you cannot take the time just now and say that you will come back later. Also, if the SRA/DA consults with the professional without you, count that as a referral to a professional.
8. Avoid visiting a reference desk if a professional is present. If the SRA/DA refers you to a professional librarian who happens to appear at the desk during the time of your query, or if you are taken to the professional, continue to play your part until you can explain to the professional that you are part of the reference evaluation study team, and record it as a referral to professional. Do not divulge this information in the presence of the SRA/DA. If you are

referred to a DA by an SRA, go and ask the question from the DA and score the DA as if you'd never spoken to the SRA.

10. Do not score the professional librarian (SSs) in any way.
11. If you are referred to a specific librarian (by name), at another floor, department, or outside source, score it as a referral to a professional. If you are told to see "the librarian at McKay LRC," though, score this as a referral to an outside source.
12. If the SRA/DA on the third floor gives you an Interlibrary Loan request form to fill out, count that as a referral to ILL and take the form with you explaining that you'll return it later. The other floors do not have this form and will refer you either to ILL or the third floor desk for forms. Either one will count as a referral to ILL.
13. If the SRA/DA is able to answer your referral question without a referral, fill out the Proxy Question Report based on the answer, reference techniques, and sources he used. It will not count as a referral, but will be included in the other studies that are using the same report sheet.
14. When you have asked all of your questions and completed your reports, return the questions and report forms intact to your supervisor. Thank you very much for your time, effort, and willingness to help us improve our service.

APPENDIX C

Question Type: _____ Accuracy
(Check all _____ Referral
that apply) _____ Negotiation

PROXY QUESTION REPORT

Question #_____

1. Your name_____

2. Question asked on (Circle one): Level 1 2 3 4 5

3. Question was asked when? Day_____ Time_____

4. To whom did you ask the question? ___SRA (1) ___DA (2)
___SS (3) ___Unknown (4)

5. Reference Assistant or DA answered the question:
a) _____ (1) Without assistance.
b) _____ (2) After consultation with:
_____ SRA _____ DA _____ SS
_____ other _____ unknown

6. Check the following statement that BEST describes what you saw as you approached the reference desk for help:

a) _____ (1) The SRA or DA was free to help me.
b) _____ (2) The SRA or DA was preoccupied with a library project, and I had to get their attention.
c) _____ (3) The SRA or DA was helping another patron at the desk, and I had to wait _____ minutes for help.
d) _____ (4) The SRA or DA was away from the reference desk, and I had to wait _____ minutes for help.
e) _____ (5) Other (specify): _____

7. Indicate the way in which the reference assistant dealt with your question.
a) _____ (1) Answered it without consulting reference sources, i.e., books, computers, files, etc.
b) _____ (2) Consulted a single reference source and found

the answer.
c) _____ (3) Consulted several sources and found the answer.
d) _____ (4) Showed you the reference source(s) that would answer your question and explained how to use it.
e) _____ (5) Referred you to specific source(s) to find the answer on your own.
f) _____ (6) Indicated that they could not find an answer.
g) _____ (7) Other (specify)

8. Write the answer given to the question here: _____

(The following question to be completed by accuracy group)
The answer given was:
a) _____ (1) Correct.
b) _____ (2) Partially correct.
c) _____ (3) Incorrect.
d) _____ (4) No answer or "I don't know".

9. Did the SRA/DA cite the source used? ___(1) Yes ___(2) No

10. Write the name of the source(s) used here: _____

_____

11. Approximately how long did you consult with the SRA/DA? ____ Minutes.

THE REFERENCE PERSON:

	YES (1)	NO (2)
12. Displayed a friendly and helpful manner during the reference interview.	_____	_____
13. Used eye contact during reference interview.	_____	_____
14. Asked open questions.	_____	_____
15. Verified question during reference interview.	_____	_____
16. Offered opportunity for follow-up.	_____	_____

Question Negotiation Proxy Only: (17 and 18 only)

17. Was level 2 information

discussed? _____ _____

18. Was level 3 information discussed? _____ _____

19. Referred question: to whom? (Circle or check one)

a) SS (Subject specialist) yes (1) no (2)

b) Other floor? first_____
second_____
third_____
fourth_____
fifth_____

(The following question to be answered by referral group)
Correct floor? yes(1) no(2)

c) Outside collection:
Law library_____
Bean Museum_____
Tanner Business Library_____
Kimball LRC_____
McKay LRC_____
Crabtree LRC_____
HFAC Music Performance Library_____
Other (specify)_____

(The following to be answered by referral group)
Appropriate referral? Yes (1) No (2)

d) Interlibrary loan Yes (1) No (2)

e) Other (specify)_____(9)

(The following to be answered by referral group)
Appropriate source? Yes (1) No (2)

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